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**Editor's Note:** With reference to the note Thomas K.P. *et al.* (1999): Additions to the fish fauna of Pambar River, Kerala, Vol. 96(2) it has been pointed out by Dr. K. Rema Devi that there is a variation in the scalation of the middorsal streak in *Garra hughi*, which has been overlooked by the authors. Also, *Horallabiosa joshuai* as already been reported from Kerala (Rema Devi, K. & A.G.K. Menon (1994), *Rec. zool. Surv. India*, 94(2-4): 247-251).

## 26. RESOLUTION OF THE CONTROVERSIAL WESTERN LIMIT OF THE RANGE OF *DELIAS ACALIS* GODART (LEPIDOPTERA: PIERIDAE)

The western limit of the distribution of the Redbreast Jezebel *Delias acalis pyramus* Wallace has been the subject of some controversy. Evans (1932) gave a range of Shimla (Himachal Pradesh) to Burma (=Myanmar). Subsequent authors, including Wynter-Blyth (1957) and Lewis (1973) gave a range of Nepal to Assam, Burma, Malaysia and the Eastern Ghats of India for the species.

Wynter-Blyth (op. cit.) noted "Evans (op. cit.) gives Shimla as a locality for this butterfly, but this is not confirmed by THE FAUNA OF BRITISH INDIA nor has the author any record of its capture there. If his record is correct, it will presumably also be found in Garhwal and Kumaon."

Recently, I have seen this butterfly on five occasions in Kumaon. The first time was on November 9, 1997 in a garden in the H.M.T. Colony in Ranibagh near Haldwani at an

elevation of approximately 450 m. The butterfly was attracted to poinsettia blooms (*Euphorbia pulcherrima* Willd. ex Klotzsch) and settled for over a minute, allowing itself to be observed well. However, it was not possible to observe the *recto* surface and the diagnostic red basal area on the hindwing *recto*. It might therefore have been the Redbase Jezebel *Delias pasithoe* L., although this is unlikely.

The next sighting was in Jones Estate in the Bhimtal valley on April 21, 1998 at an elevation of 1,500 m. A rather worn specimen was attracted to blossoms of *Bauhinia vareigata* L. By a stroke of luck, it sailed across a terrace below me, so it was possible to clearly see the red basal area on the hindwing *recto*. It was certainly *Delias acalis*.

The third sighting was 10 km north of the town of Rudrapur in the Terai, at an elevation of

c. 450 m on March 7, 1999. The specimen was seen flying about at tree top level in the manner typical of the genus. It crossed the road occasionally, but did not settle. Again, it might have been either *acalis* or *pasithoe*, since the *recto* surface was not visible from below.

The fourth specimen was a female that settled on a flowering buddleia bush (*Buddleja* L.) on March 9, 1999 in Jones Estate, within a hundred metres of where the second individual was sighted nearly a year before. The specimen is now in my collection. The forewing length is 43 mm and the expanse 90 mm. This is the first specimen recorded from Kumaon, and is in good condition.

The fifth record was on December 1, 1999 when an individual was flying along the motor road 200 m from where the first record was sighted in Ranibagh in 1997. Since it was flying slowly, it was possible to see the diagnostic red basal patch on the hindwing *recto*.

I am quite certain that this species was not present in this area during the last 20 years and my late father did not record it either in the course of collecting and observing butterflies in the area since 1949. It is such a conspicuous butterfly that it could not have been overlooked, even by a casual collector.

Therefore, it has moved into the area recently. Three definite and two probable records within three years, where it was not recorded for over 50 years, implies that the recent records are members of a breeding population rather than mere stragglers from Nepal. The sightings follow the emergence pattern observed by Bailey (1951) in Nepal, i.e., November-December; March-April and again the following March and December. Although the monsoon brood noted by Bailey (op. cit.) has not been recorded in Kumaon so far, this is probably because of the limited period of activity of butterflies during the monsoon, as well as because I hardly travel to low elevations during that season. If one considers

that this species is not a known migrant, nor for that matter is any Indian member of the genus, the possibility of the present records being merely stragglers is unlikely. I might add that during the 1980s and early 1990s, I was on the road much more often to Haldwani and other adjoining low areas than during the later 1990s, hence the possibility of encountering these butterflies was greater in the past than during the last few years when they have actually been recorded.

According to Sevastopulo (1973), the larval hostplant is probably *Loranthus* L., of which four species occur below 1,500 m in Kumaon (Osmaston 1927).

The above observations resolve the problem of Evans' (op. cit.) record of the butterfly from Shimla. Being at the western extremity of its range, this limit is evidently flexible. The factors influencing the expansion and contraction of its range have not been understood, but in certain years, such as during 1997, 1998 and 1999, the range is extended westward. For most of the 20th century, this butterfly was unable to extend its range west of Nepal. But now, factors being conducive, it has extended its range to Kumaon and possibly even further westward along the Himalaya. The material upon which Evans (op. cit.) based his record from Shimla was evidently a part of such an expansion in range as is being witnessed at present. One or more specimens were taken at Shimla, in much the same manner as the specimens reached Jones Estate recently. Subsequently, the range contracted and no more records were forthcoming, hence the controversy.

There is also a controversy regarding the occurrence of this butterfly in the Eastern Ghats where it is said to be very rare (Wynter-Blyth, op. cit.). According to Evans (op. cit.), the subspecies *kandha* Doherty occurs in the Madras Presidency. Alan Sharman (*in litt.*), who collected and lived in the Eastern Ghats until the 1960's failed to find it there. Other recent

workers have also not found it. Perhaps the factors leading to the recent expansion of this insect's range westward along the Himalaya will also cause it to be met in the Eastern Ghats, too.

For the future, it would be best to amend the distribution of this butterfly to read "Extends its range westward along the Himalaya in certain years from Nepal to Kumaon and probably as far as Himachal Pradesh."

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27. AMERICAN JOINTVETCH *AESCHYNOMENE AMERICANA* LINN. — A NEW LARVAL FOOD PLANT OF *TERIAS HECABE* LINN.

While working on the butterflies of the Sanjay Gandhi National Park (SGNP), Mumbai, we came across a plant with a glandular hispid stem. At first, it appeared to be an insectivorous plant. We collected and identified it as *Aeschynomene americana* Linn. The Common Grass Yellow butterfly *Terias hecabe* Linn. lays eggs on this plant. We also collected a caterpillar feeding on the plant. The caterpillar pupated later, and the butterfly that emerged was identified as *Terias hecabe* Linn.

*Aeschynomene americana* (Linn.), commonly known as sensitive plant or American jointvetch, is a native of tropical America (Maheshwari and Paul 1975) and was introduced into India recently. It was first reported from Hazaribagh (Chatterjee 1960) and subsequently near Ranchi (Maheshwari and Paul 1975), both in Bihar State. Chandrabose and Srinivasan (1976) have reported this species from Kerala, Quilon district, Perundanaruvi. However, according to them it is a native of the West

Indies. In the FLORA OF MAHARASHTRA, Almeida (1999) has mentioned that the species has so far been collected from Thane and (the erstwhile) Colaba districts of Maharashtra. The present record is from Goregaon (East), in the vicinity of the SGNP. It is interesting to note that this intruder has come closer to the National Park area as the earlier distribution as recorded in the FLORA OF MAHARASHTRA is Khopoli and Vashi areas. Unless precautions are taken, it will become a major intruder into the area and disturb the growth of the native flora. I (NC) have observed that *Hyptis suaveolens*, commonly known as vilayati tulsi, has become a major threat to low growing plants like *Smithia sensitiva* and *Cassia tora*, *Cyanotis* and *Commelina* spp. which once grew profusely. However, both these plants i.e. *Aeschynomene americana* and *Hyptis suaveolens* are useful to butterflies, as the former is a new larval food plant for the Common Grass Yellow and the latter a source of nectar for many butterflies.